

Unapproved Minutes of the April 7, 2015  
Sequence VG Surveillance Panel  
Conference Call

The meeting was called to order by Chairman Andy Ritchie at 2:00 PM EDT.

Mike McMillan agreed to take the minutes of the meeting.

A list of the attendees on the call is included as Attachment 1.

Chairman Ritchie listed the agenda items he would like to cover in this call:

- 1) Approval of the minutes from the March 9, 2015 Sequence VG Panel Conference Call
- 2) Report from Labs on VH testing of new fuel batch
- 3) Discussion of next steps in completing fuel approval matrix
- 4) Additional Old Business
- 5) New Business
- 6) Next meeting/call

Chairman Ritchie asked if there were any additions or corrections to the minutes from the March 9, 2015 VG Panel Conference Call. There being none, Jason Bowden moved and Ed Altman seconded a motion to approve the minutes. The motion was approved unanimously.

Chairman Ritchie re-iterated his intent to continue regular monthly conference calls of the Panel plus additional calls in between, if warranted. The next two regularly scheduled calls will be May 5 and June 2. He then summarized where the Panel was in approving a new fuel batch by quoting the following from the March 9 minutes from the VG Panel call: *"...it appears that the overall objective has changed; it is now to approve a new VH fuel batch, and conserve the current fuel batch for VG testing. The first step will be to run 2 VH tests with the new fuel batch on Oil 940, to get a comparison with the VG results on this oil already obtained. Also, Haltermann should reconsider how they might make the new fuel batch more severe, if it comes to that. If the testing starts on March 23, it should complete the first week in April."*

Ed Altman, Chairman of the VH Development Task Force, reported that the two VH tests referred to above have not been completed yet. SwRI began its VH test but encountered much lower fuel dilution than expected (9% after 24 hours compared to 13-15% in a typical VG test). The fuel dilution further decreased after 48 hours to about 3%; however this was traced to a problem with the cam sensor. When this was fixed, the fuel dilution returned to about 9% after another 24 hours, at which point the test was stopped. Ed offered that the lower fuel dilution might be because the new Zeus ECM being used in the VH test is not giving the same commands as the older ECM. He said the plan now is to retard the injection timing to see if that increases fuel dilution. Ron Romano confirmed the experience at SwRI, adding that both SwRI and Intertek are planning tests at different injection timing, to see if that increases fuel dilution. The VG test with the older ECM runs at -62 degrees injection timing, whereas the VH test at SwRI had run at -20 degrees with the new ECM. The next tests will be done at -40 degrees injection timing, and, depending on the results, additional testing may be done to try to hone in on approximately 15% fuel dilution. These scoping tests with different injection timings will be 24-hour tests just to determine the level of fuel dilution. Gordon Farnsworth indicated the labs also plan to run both the current VG fuel batch and the new VH fuel batch in the VH test to see if they yield the same level of fuel dilution. It is clear that there are two issues here, and we need to sort out whether the new Zeus PCM gives the same 15% fuel dilution with the old (current) batch of fuel in the VH test.

Chairman Ritchie asked Mark Overaker from Haltermann if he could shed any light on the fuel dilution differences on the basis of differences between the new and current fuel batches. Mark stated that, from a fuel standpoint, he sees no reason for the differences. The distillation curves for the two batches are about the same, and he sees no other differences which might account for a difference in the level of fuel dilution.

Chairman Ritchie remarked that he believed we now needed to wait for the results of the injection timing studies, and hopefully the completion of the two VH tests with the new fuel batch. He indicated this may be difficult to complete before the next call, which is scheduled for May 5, but he planned to convene the call in any event to update the Panel on the status of the testing. He further indicated that he would consider convening a call earlier than that, if conditions warranted that.

**Old Business:** There was no Old Business brought before the Panel.

**New Business:** There was no New Business brought before the Panel.

**Next Meeting:** The next VG Panel Conference Call is planned for Tuesday, May 5, 2015 at 2:00 PM EST.

The conference call was adjourned at 2:25 PM EDT.

### **Attachment 1**

#### **Attendance for 4/7/15 Sequence VG Call**

**Infineum:** Andrew Ritchie, Mike McMillan, Gordon Farnsworth, Doyle Boese

**Ashland:** Amol Savant, Tim Caudell

**BP Castrol :** Timothy Miranda, David Su

**Ford:** Ron Romano

**GM:** Bruce Matthews

**Haltermann :** Tracey King, Mark Overaker

**SwRI :** Dan Worcester, Cole Hudson

**Intertek:** Al Lopez, Bill Buscher

**Afton:** Ed Altman

**TMC:** Rich Grundza

**Lubrizol:** Jerry Brys

**Oronite:** Jo Martinez, Ricardo Affinito, Kaustav Sinha

**OHT:** Jason Bowden, Matt Bowden

**TEI:** Zack Bishop, Dan Langto

**Neste Oil:** Chris Castanien